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1-1 GENERAL

1-1.1 Introduction

The "Drafting Guide for use in Office and Field" is intended to be used by both state and consultant design personnel. It shall be used as a guideline and not as the sole source of information to which design personnel are restricted. The projected goal of these Drafting Guides is to maintain consistency and uniformity in the appearance of the prepared project plans.

This guide was created for the purpose of assisting design personnel in the preparation of the plans through the use of the CADD system. This is due to the commitment of Highway Plans Services to utilize the CADD system for 100% of the drafting required for the construction project plans.

The department realizes certain plans will be prepared using manual methods. For this purpose, additional fields have been shown within the guides for the manual preparation of the project plans.

Each sample drawing has a reference sheet on which typical drafting parameters used in the preparation of the drawing are identified. It will also refer to any related drawings within the Drafting Guides. Additional design, supporting the information shown on the sample drawing, is included on the corresponding reference sheet.

The Drafting Guides will cover a number of individual plan and detail sheets which may be included in a set of project plans. It is intended to present a variety of samples covering different project types and requirements. This edition, however, will not be able to cover everything which may be desired or necessary; because of this limitation, the Drafting Guides will be updated periodically with modifications and/or additions.

These guides are to be used in conjunction with the ADOT CADD Standards manuals. The "Drafting Guides for use in Office and Field", and updates, will be distributed by ADOT's Engineering Records.

1-1.2 Standards

The project plans shall be clear, complete and concise. Accurate, complete and easily understood plans provide the contractor with the means to construct the project. This goal can be met through the initial effort within the design and drafting phase.

Details within the project plans show what is necessary for the contractor to build the item. The details, if necessary, should be kept simple, yet containing all pertinent information. The usage of special details should be kept minimal, refering to the Construction Standard Drawings whenever possible.

Details shown within the Drafting Guides are samples from previous projects and are not meant to be duplicated without thorough review in regard to specific project applicability. Detail content is the responsibility of the design engineer.

1-2 SHEET PREPARATION

1-2.1 General

Project plans are engineering drawings used to convey information pertaining to typical sections, pavement, geometrics, structures, drainage and other data used to construct the project.

1-2.2 Drawing Format Order

All Sheets are to be 22" x 36" overall. They shall be of reproducible paper, linen, or plastic. The drawing border & title block shall conform to ADOT's CADD Standards.

Project plans may contain some or all of the following sheets. The contents of the plan set shall follow the sequence presented below:

- (1) Face Sheet
- (2) ADOT Standard Drawings
- (3) Design Sheet(s)
- (4) Barrier Summary Sheet(s)
- (5) New Pipe Summary Sheet(s)
- (6) Pipe Extension Summary Sheet(s)
- (7) Box Summary Sheet(s)
- (8) Box Extension Summary Sheet(s)

- (9) Detail Sheet(s)
- (10) Culvert Detail Sheet(s)
- (11) Construction Phasing Sheet(s)
- (12) Geometric Sheet(s)
- (13) Plan & Profile Sheet(s)
 - a. Mainline
- (14) Traffic Interchange Sheet(s)
 - a. Ramp Plan & Profile Sheet(s)
 - b. Crossroad Plan & Profile Sht(s)
 - c. Paving Plan Sheet(s)
 - d. Staking Plan Sheet(s)
 - e. Pavement Joint Layout Sheet(s)
 - f. Detour Sheet(s)
- (15) Storm Drain Plan & Profile Sht(s)
- (16) Topsoil Excavation & Plating Sheet(s)
- (17) Berm Plan & Profile Sheet(s)
- (18) Drainage Channel Sheet(s)
- (19) Traffic Sheet(s)
- (20) Structure Sheet(s)

1-2.3 General Drafting Practices

Lettering

1) All lettering should follow the basic principles of single stroke Gothic style, either vertical or slant. Back slant is not acceptable. The lettering may be accomplished by means other than freehand. Mechanical means, such as Leroy or by other templates, are acceptable. Slant lettering shall have a 22.5, plus or minus, degree angle from the right side of vertical.

2) The normal direction of reading lettering shall be from the bottom or the right side of the sheet. Horizontal and diagonal lines shall read from left to right and vertical lines shall read from bottom to top.

3) Line spacing for lettering shall always be one half the text size unless noted otherwise.

4) Abbreviations should only occur when not enough space is available for the entire text placement.

Line Work

Standard P-00.60 shows the allowable line thickness and the associated ink pen equivalent. Line work shall be uniform throughout the drawings.